

DIGITAL COMPANION CHANNEL
TRANSLATOR APPLICATION
HEALY, ALASKA
(University of Alaska)

KESSLER AND GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20111004

Prepared by William T. Godfrey, Jr.

KG&A

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Gainesville, Florida 32607



Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. WITH THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC. (“KGA”), TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A DIGITAL COMPANION CHANNEL APPLICATION FOR THE K07ND (BLTTV-4529) ANALOG TRANSLATOR (HEALY, AK) LICENSED TO THE UNIVERSITY OF ALASKA.

The firm Kessler and Gehman Associates, Inc. (“KGA”) has been retained by the University of Alaska (“UA”) to prepare engineering studies and the engineering portion of a digital companion channel application to operate alongside its KO7ND analog television translator.

Discussion

UA is licensed to operate the KO7ND analog translator (BLTTV-4529) facility on Channel 7 with an ERP of 0.335 kW at an antenna height radiation center of 10.0 meters Above Ground Level (“AGL”) using a directional antenna. This application requests authorization to operate a digital companion channel with the following parameters:

- Channel: 10
- ERP: 300 W
- TPO: 61.1W
- Antenna: Directional
- Antenna height radiation center: 10.0 m AGL

Exhibit 9 is a principal community contour map demonstrating that the proposed new Channel 10 digital translator facility’s F(50,90) 48.0 dBuV/m contour will completely encompass the principal community of Healy, AK.

Exhibit 10 is a contour map depicting the licensed analog KO7ND Channel 7 facility’s F(50,50) 68.0 dBuV/m protected contour (red) and the proposed digital translator facility’s



F(50,90) 48.0 dBuV/m protected contour (blue). It can be seen that the proposed facility will exceed replication in all azimuthal directions. Based on U.S. Census 2000 data, the licensed analog KO7ND Channel 7 facility is predicted to serve 863 persons within its 330.27 sq. km F(50,50) 68.0 dBuV/m protected contour. The proposed new Channel 10 digital facility is predicted to serve 897 persons within its 1,476.57 sq. km F(50,90) 48.0 dBuV/m protected contour. Therefore, the public interest will be served since the proposed digital translator facility will cover an additional 34 persons within an area 1,137.3 sq. km larger than the licensed analog translator facility.

Interference Study – Canadian Coordination Required

Exhibit 11 is a Longley-Rice interference study that was computed using a Sun Microsystems computer work station loaded with the FCC's DTV/LPTV analysis software. The interference percentages are exactly the same as the FCC calculations since the study was performed using the same type computer and the same interference analysis software. Exhibit 11 demonstrates that the proposed digital Channel 10 facility will not cause more than 0.5% interference to full-service and/or Class A LPTV/translator stations. Exhibit 11 also demonstrates that the proposed digital Channel 10 facility will not cause more than 2.0% interference to secondary LPTV/translator stations and demonstrates compliance for FCC Monitoring Stations, West Virginia Quiet Zones, Table Mountain, and Mexican border coordination. **However, the proposed Channel 10 digital translator is only 383.2 km from the Canadian border and is therefore, within the Canadian coordination distance.** Accordingly, the proposed Channel 10 digital television translator facility satisfies the interference protection provisions of 47 C.F.R. §§74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030 of the FCC rules.

It should be noted that the K10PT-D Channel 10 digital translator (BDCCDTV-20061030AMV) should not be considered in the Longley-Rice interference study. UA was authorized to build the K10PT-D digital Channel 10 translator; however, the construction permit expired on September 16, 2010. For some unknown reason, the K10PT-D Channel 10 digital translator construction permit is still depicted in the CDBS even though the construction permit



is expired. Accordingly, the K10PT-D Channel 10 digital translator construction permit should not be considered in the interference study.

Exhibits

Exhibits 1 and 2 represent the proposed new facility's administration data as well as the antenna and antenna structure specifications for the proposed digital Channel 10.

Exhibit 3 depicts the profile view of the proposed new facility's antenna on the antenna structure with all the appropriate elevations.

Exhibit 4 displays the antenna azimuth pattern without the requested 180 degree clockwise rotation.

Exhibit 5 displays the antenna azimuth pattern tabulation without the requested 180 degree clockwise rotation.

Exhibit 6 displays the antenna elevation pattern from 90° above the horizontal to 90° below the horizontal.

Exhibit 7 displays the antenna elevation pattern tabulation from 0° (horizon) to 90° below the horizontal.

Exhibit 8 depicts the location of the proposed new facility's transmitter site using the MT Healy (D-4), AK Quadrangle, USGS, Topographic map.

Exhibit 9 is a principal community contour map demonstrating that the proposed Channel 10 digital translator facility's F(50,90) 48.0 dBuV/m contour completely encompasses the principal community of Healy, AK.



Exhibit 10 is a contour map comparing the licensed KO7ND Channel 7 analog facility's F(50,50) 68.0 dBuV/m contour (red) and the proposed new Channel 10 digital facility's F(50,90) 48.0 dBuV/m contour (blue).

Exhibit 11 is a Longley-Rice interference study computed using a Sun Microsystems computer work station loaded with the FCC's DTV/LPTV analysis software. The exhibit demonstrates compliance with the interference requirements pursuant to §§74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030 of the FCC rules.

Environmental Impact

The proposed Channel 10 digital companion channel translator facility will have no significant environmental impact as defined in §1.1307 of the FCC Rules. The digital transmitter, transmission line and antenna system will produce an ERP of 300 W. It was determined that the maximum lobe of radiation from the base of the tower will occur at approximately 38.3 feet from the base of the tower (46.7-foot radial distance from the antenna center). At approximately 38.3 feet from the base of the tower, the depression angle of the main lobe will be 35.0° below the horizontal. At that point, the relative field is 0.670 and the power density six feet above the ground will be 0.0222 mW/cm² which equates to 2.2% of the Maximum Permissible Exposure ("MPE") limits for Occupational/Controlled Exposure and only 11.1% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute ("ANSI"). Since the operation of the proposed Channel 10 digital translator facility will exceed 5.0% of the MPE limit for General Population/Uncontrolled Exposure at various points on the ground, the proposed facility is considered a "contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, all antennas on the support structure must be analyzed and a composite study is required to demonstrate that the total power density of all antennas on the tower will not exceed 100% of the MPE allowable.



The only other broadcast antenna on the proposed Channel 10 support structure is the University of Alaska licensed K07ND analog Channel 7 TV translator antenna. The licensed K07ND analog Channel 7 TV translator facility has no significant environmental impact as defined in §1.1307 of the FCC Rules. The NTSC transmitter, transmission line and antenna system produce an ERP of 335 W. Assuming the maximum lobe of radiation were oriented toward the base of the tower, the licensed K07ND facility's power density six feet above the ground would be 0.06995 mW/cm^2 which equates to 7.0% of the MPE limits for Occupational/Controlled Exposure and only 35.0% of the MPE limits for General Population/Uncontrolled Exposure authorized by the ANSI.

In conclusion, the proposed Channel 10 digital TV translator facility is predicted to cause 2.2% of the MPE limits for Occupational/Controlled Exposure and 11.1% of the MPE limits for General Population/Uncontrolled Exposure. The licensed K07ND analog TV translator facility is predicted to cause 7.0% of the MPE limits for Occupational/Controlled Exposure and 35.0% of the MPE limits for General Population/Uncontrolled Exposure. Therefore, the worst-case combined exposure from all facilities on the support structure is predicted to be 9.2% of the MPE limits for Occupational/Controlled Exposure and 46.1% of the MPE limits for General Population/Uncontrolled Exposure. Accordingly, the combined exposure from all broadcast facilities on the structure would result in exposure levels well below the allowable exposure threshold authorized by ANSI and the FCC. It is safe to conclude that the emissions would be insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the licensee will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. It is also understood that additional antennas on the support structure could increase the overall RF exposure levels and it is the responsibility of each licensee to ensure that the total RF exposure resulting from the operation of all antennas on the support structure do not exceed the maximum permissible exposure level at any point on the ground.



Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

Certification

This technical statement was prepared by William T. Godfrey, Jr., Telecommunications Technical Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. William graduated in 1993 as a Distinguished Military Graduate from the University of Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics from the University of North Florida. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.



KESSLER AND GEHMAN ASSOCIATES, INC.

A handwritten signature in blue ink that reads 'William T. Godfrey, Jr.' The signature is written over a horizontal line.

WILLIAM T. GODFREY, JR.

Telecommunications Technical Consultant

4 October, 2011

NEW DIGITAL COMPANION CHANNEL 10

Healy, Alaska

ENGINEERING SPECIFICATIONS

A. Transmitter Site:

Geographic coordinates (NAD27):

| | |
|----------------------|--------------|
| North Latitude | 63° 52' 30" |
| West Longitude | 148° 51' 00" |

Site Address: **6.0 km ENE (71.6°) of Healy, AK**

B. Main Studio Site:

Street Address **University of Alaska Fairbanks
312 Tanana Drive, Suite 202
Fairbanks, AK 99775-5620**

C. Proposed Facility:

| | | |
|-----------------|-----------------|--------------------|
| Digital Channel | Number | 10 |
| | Frequency | 192-198 MHz |

D. Antenna Height:

| | |
|--|----------------|
| Height of Site Above Mean Sea Level (AMSL) | 973.0 M |
| Overall Height of Structure Above Ground | 10.0 M |
| (including all appurtenances) | |
| Overall Height of Structure Above Mean Sea Level | 983.0 M |
| (including all appurtenances) | |
| Height of Site Above Average Terrain | 225.2 M |
| Antenna Height Radiation Center (R/C) Above Ground | 10.0 M |
| Antenna Height R/C Above Average Terrain | 235.2 M |
| Antenna Height R/C Above Mean Sea Level | 983.0 M |
| Average of All Non-Odd Radials | 747.8 M |

E. System Parameters:

| | |
|--|------------------|
| Transmitter Power Required | 61.1 W |
| Maximum Power Input to Antenna | 59.9 W |
| Transmission Line Loss | 0.09 dB |
| Transmission Line Efficiency | 98.0% |
| Maximum Antenna Gain in Beam Maximum | 7.00 dBd |
| Maximum Antenna Gain in Horizontal Plane | 7.00 dBd |
| Maximum Effective Radiated Power | 24.77 dBW |
| In Beam Maximum | 300 W |
| Maximum Effective Radiated Power | 24.77 dBW |
| In Horizontal Plane | 300 W |

NEW DIGITAL COMPANION CHANNEL 10

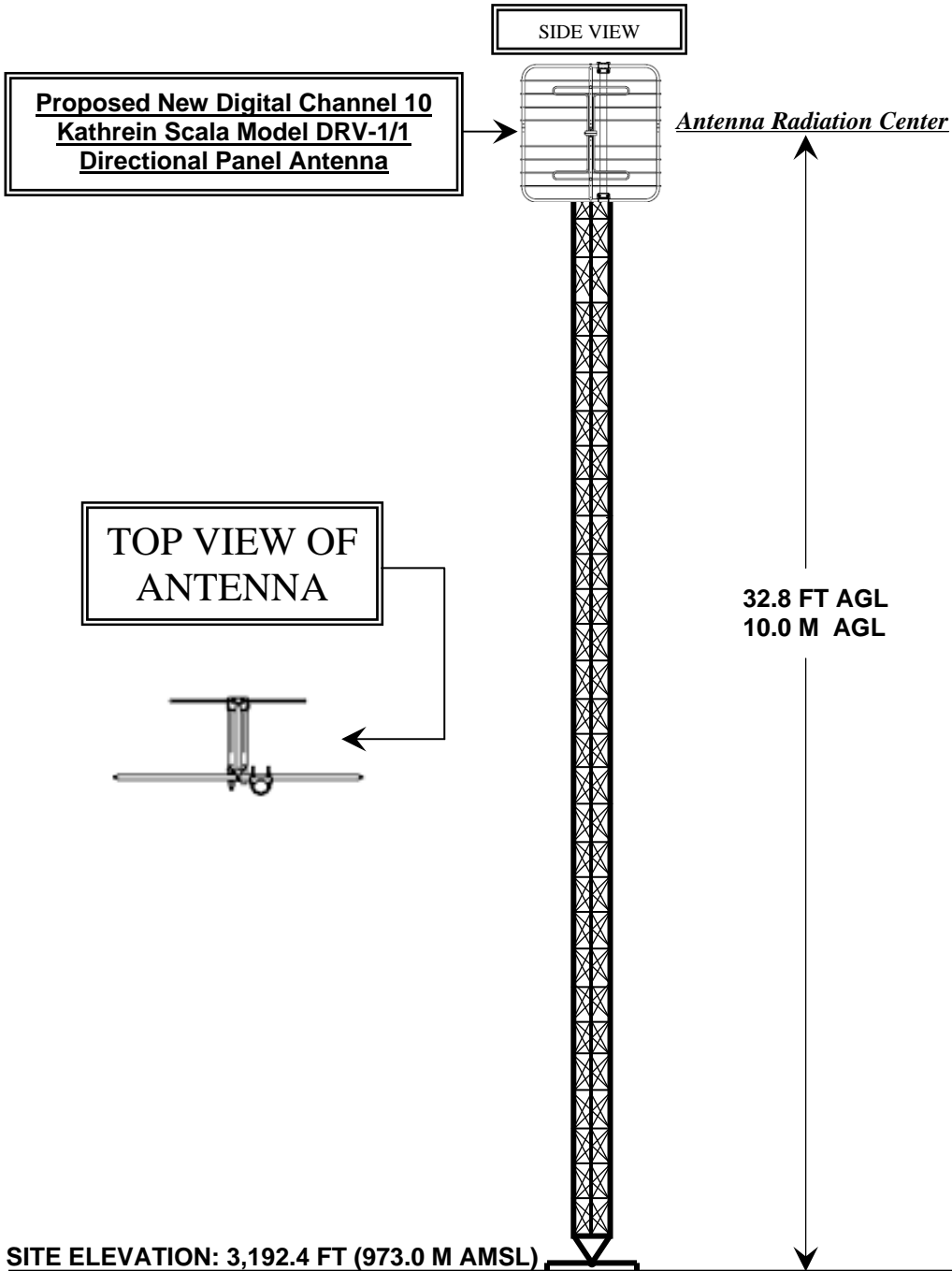
Healy, Alaska

DATA FOR DIGITAL DIRECTIONAL TRANSMITTING ANTENNA

- A. **Antenna:** Kathrein Scala Division Model DRV-1/1, Directional, VHF, Panel Antenna.
- B. **Electrical Beam Tilt:** 0.0°
- C. **Mechanical Beam Tilt:** N/A
- D.

| <u>Maximum Power Gain</u> | <u>Horizontal Polarization</u> |
|----------------------------------|---------------------------------------|
| Maximum: | 5.0 (7.00 dB) |
| Horizontal: | 5.0 (7.00 dB) |
- E. **Length:** 2.1 feet (0.6 meters)
- F. **Transmitter Power Output:** 61.1 W
- G. **Null Fill:** 0.0%
- H. **Transmission Line:** 1-5/8" 50-ohm Flex Line
- I. **Transmission Line Efficiency:** 98.0%
- J. **Transmission Line Length:** 30 feet (9.1 m)
- K. **Transmission Line Attenuation:** 0.287 dB/100 ft
- L. **Transmission Line Loss:** 0.09 dB

ELEVATION VIEW



| | |
|-----------------------------|---------|
| OVERALL HEIGHT AGL: | 10.0 M |
| OVERALL HEIGHT AMSL: | 983.0 M |
| RADIATION CENTER AGL: | 10.0 M |
| RADIATION CENTER AMSL: | 983.0 M |
| RADIATION CENTER HAAT: | 235.2 M |
| AVG OF ALL NON-ODD RADIALS: | 747.8 M |
| SITE HAAT: | 225.2 M |

COORDINATES (NAD 27):
N. LATITUDE 63° 52' 30"
W. LONGITUDE 148° 51' 00"
Antenna Structure Registration Number:
Not Required
FAA Aeronautical Study Number:
Not Required

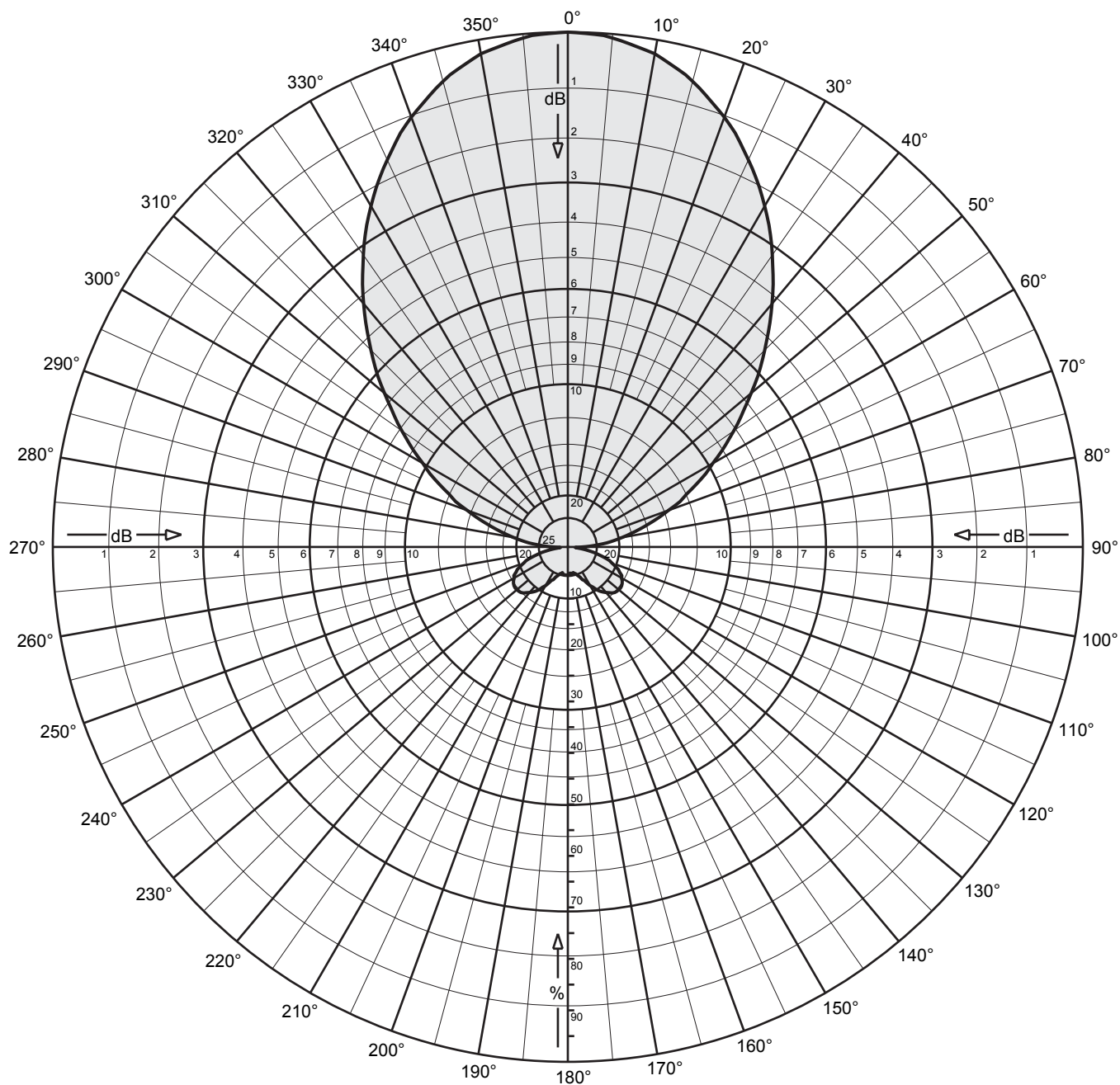
NOTE: NOT TO SCALE

KESSLER AND GEHMAN
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New Digital Companion Channel 10
Healy, Alaska

20111001

EXHIBIT 3



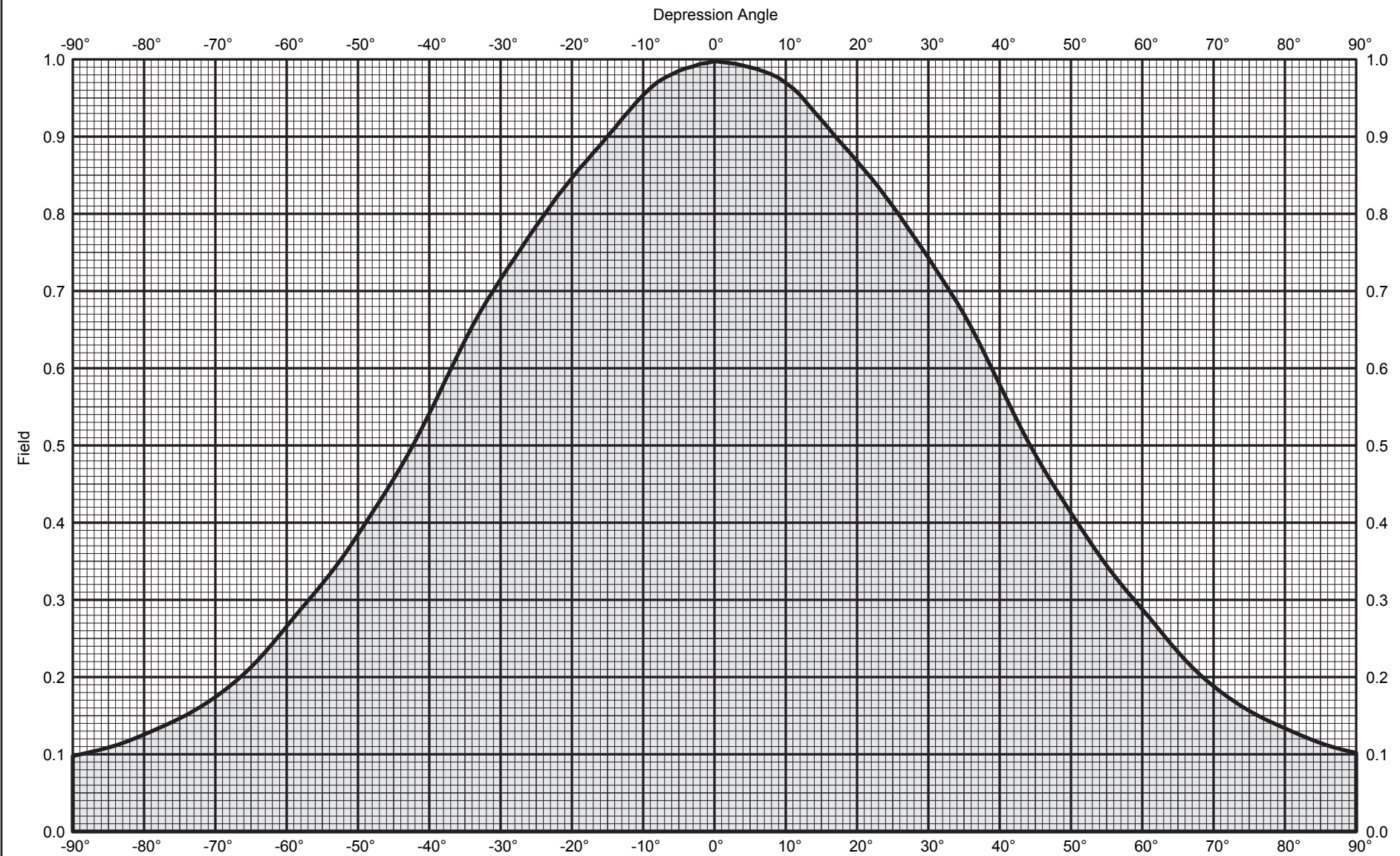
One DRV Panel Antenna
 Frequency: 174 - 230 MHz
 Gain: 7.0 dBd
 Horizontal Polarization
 Horizontal plane Pattern



One DRV Panel Antenna
Frequency: 174 - 230 MHz
Gain: 7.0 dBd
Horizontal Polarization

Horizontal plane Pattern

| Angle | Field | Rel.dB | dBd | PwrMult | Angle | Field | Rel.dB | dBd | PwrMult |
|-------|-------|--------|--------|---------|-------|-------|--------|--------|---------|
| 0 | 1.000 | 0.00 | 7.00 | 5.01 | 180 | 0.056 | -25.11 | -18.11 | 0.02 |
| 5 | 0.992 | -0.07 | 6.93 | 4.94 | 185 | 0.055 | -25.26 | -18.26 | 0.01 |
| 10 | 0.973 | -0.24 | 6.76 | 4.74 | 190 | 0.053 | -25.45 | -18.45 | 0.01 |
| 15 | 0.936 | -0.57 | 6.43 | 4.39 | 195 | 0.054 | -25.43 | -18.43 | 0.01 |
| 20 | 0.888 | -1.03 | 5.97 | 3.96 | 200 | 0.060 | -24.45 | -17.45 | 0.02 |
| 25 | 0.830 | -1.62 | 5.38 | 3.45 | 205 | 0.071 | -23.01 | -16.01 | 0.03 |
| 30 | 0.764 | -2.33 | 4.67 | 2.93 | 210 | 0.087 | -21.22 | -14.22 | 0.04 |
| 35 | 0.692 | -3.20 | 3.80 | 2.40 | 215 | 0.103 | -19.72 | -12.72 | 0.05 |
| 40 | 0.617 | -4.20 | 2.80 | 1.91 | 220 | 0.115 | -18.76 | -11.76 | 0.07 |
| 45 | 0.541 | -5.34 | 1.66 | 1.46 | 225 | 0.126 | -18.02 | -11.02 | 0.08 |
| 50 | 0.465 | -6.66 | 0.34 | 1.08 | 230 | 0.129 | -17.79 | -10.79 | 0.08 |
| 55 | 0.394 | -8.10 | -1.10 | 0.78 | 235 | 0.128 | -17.85 | -10.85 | 0.08 |
| 60 | 0.325 | -9.76 | -2.76 | 0.53 | 240 | 0.120 | -18.40 | -11.40 | 0.07 |
| 65 | 0.265 | -11.54 | -4.54 | 0.35 | 245 | 0.110 | -19.20 | -12.20 | 0.06 |
| 70 | 0.208 | -13.64 | -6.64 | 0.22 | 250 | 0.091 | -20.82 | -13.82 | 0.04 |
| 75 | 0.154 | -16.23 | -9.23 | 0.12 | 255 | 0.068 | -23.39 | -16.39 | 0.02 |
| 80 | 0.108 | -19.36 | -12.36 | 0.06 | 260 | 0.040 | -27.92 | -20.92 | 0.01 |
| 85 | 0.067 | -23.46 | -16.46 | 0.02 | 265 | 0.017 | -35.48 | -28.48 | 0.00 |
| 90 | 0.028 | -31.12 | -24.12 | 0.00 | 270 | 0.028 | -31.12 | -24.12 | 0.00 |
| 95 | 0.017 | -35.48 | -28.48 | 0.00 | 275 | 0.067 | -23.46 | -16.46 | 0.02 |
| 100 | 0.040 | -27.92 | -20.92 | 0.01 | 280 | 0.108 | -19.36 | -12.36 | 0.06 |
| 105 | 0.068 | -23.39 | -16.39 | 0.02 | 285 | 0.154 | -16.23 | -9.23 | 0.12 |
| 110 | 0.091 | -20.82 | -13.82 | 0.04 | 290 | 0.208 | -13.64 | -6.64 | 0.22 |
| 115 | 0.110 | -19.20 | -12.20 | 0.06 | 295 | 0.265 | -11.54 | -4.54 | 0.35 |
| 120 | 0.120 | -18.40 | -11.40 | 0.07 | 300 | 0.325 | -9.76 | -2.76 | 0.53 |
| 125 | 0.128 | -17.85 | -10.85 | 0.08 | 305 | 0.394 | -8.10 | -1.10 | 0.78 |
| 130 | 0.129 | -17.79 | -10.79 | 0.08 | 310 | 0.465 | -6.66 | 0.34 | 1.08 |
| 135 | 0.126 | -18.02 | -11.02 | 0.08 | 315 | 0.541 | -5.34 | 1.66 | 1.46 |
| 140 | 0.115 | -18.76 | -11.76 | 0.07 | 320 | 0.617 | -4.20 | 2.80 | 1.91 |
| 145 | 0.103 | -19.72 | -12.72 | 0.05 | 325 | 0.692 | -3.20 | 3.80 | 2.40 |
| 150 | 0.087 | -21.22 | -14.22 | 0.04 | 330 | 0.764 | -2.33 | 4.67 | 2.93 |
| 155 | 0.071 | -23.01 | -16.01 | 0.03 | 335 | 0.830 | -1.62 | 5.38 | 3.45 |
| 160 | 0.060 | -24.45 | -17.45 | 0.02 | 340 | 0.888 | -1.03 | 5.97 | 3.96 |
| 165 | 0.054 | -25.43 | -18.43 | 0.01 | 345 | 0.936 | -0.57 | 6.43 | 4.39 |
| 170 | 0.053 | -25.45 | -18.45 | 0.01 | 350 | 0.973 | -0.24 | 6.76 | 4.74 |
| 175 | 0.055 | -25.26 | -18.26 | 0.01 | 355 | 0.992 | -0.07 | 6.93 | 4.94 |



DRV-1/1
 196 MHz
 Maximum gain: 7.0 dBd
 Horizontal polarization

Vertical radiation pattern
 0 degree electrical downtilt



DRV-1/1

196 MHz

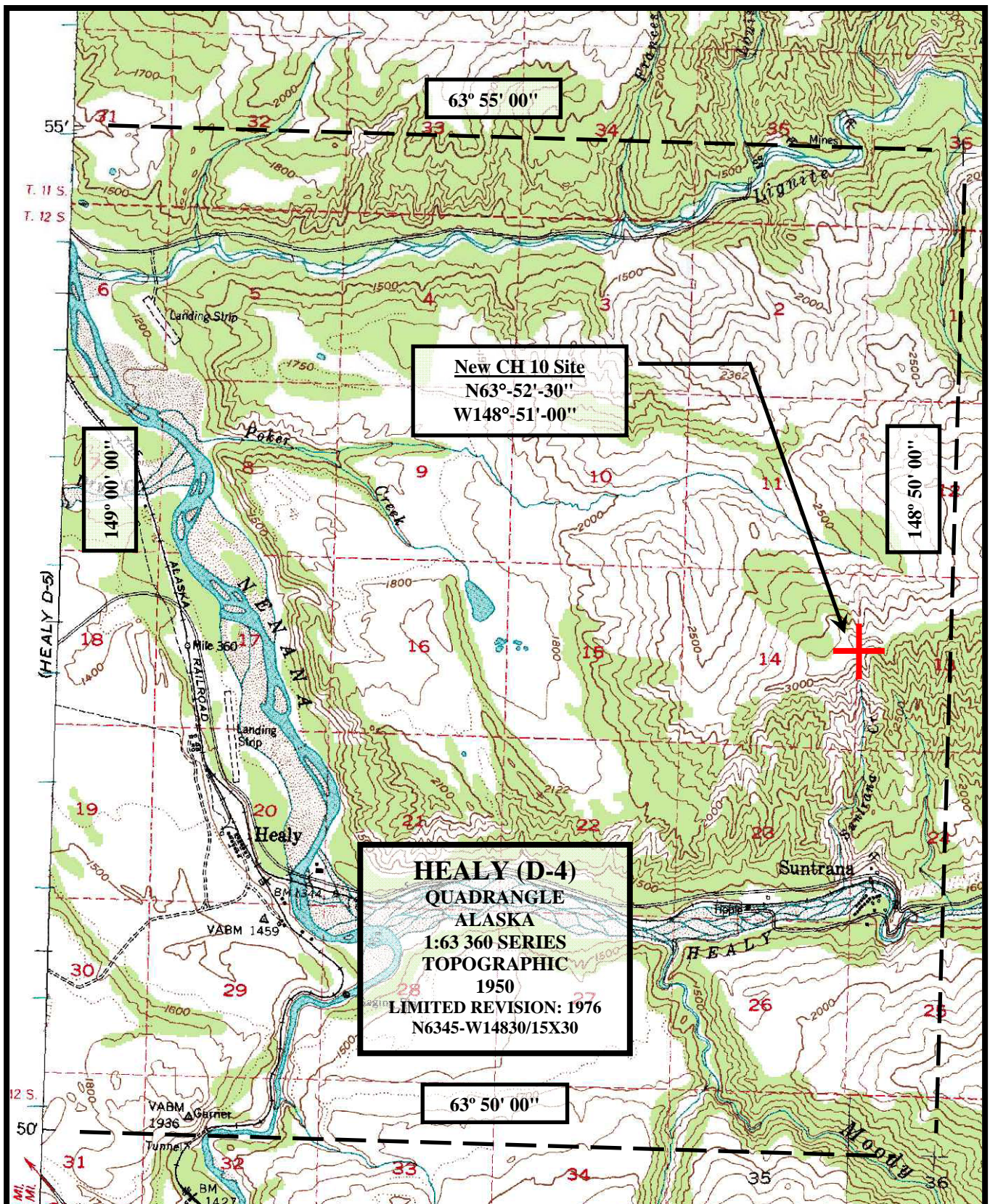
Maximum gain: 7.0 dBd

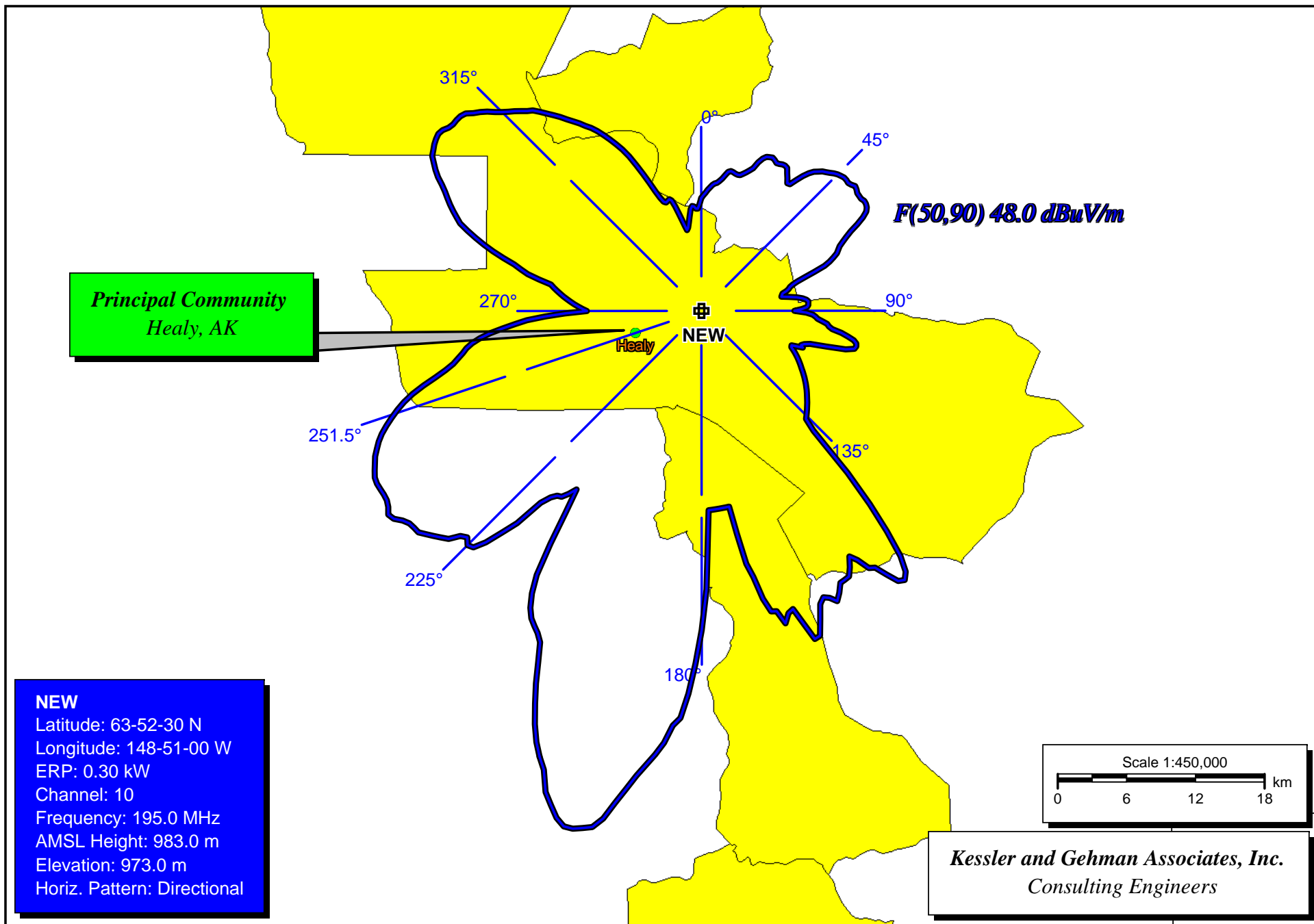
Horizontal polarization

Vertical radiation pattern

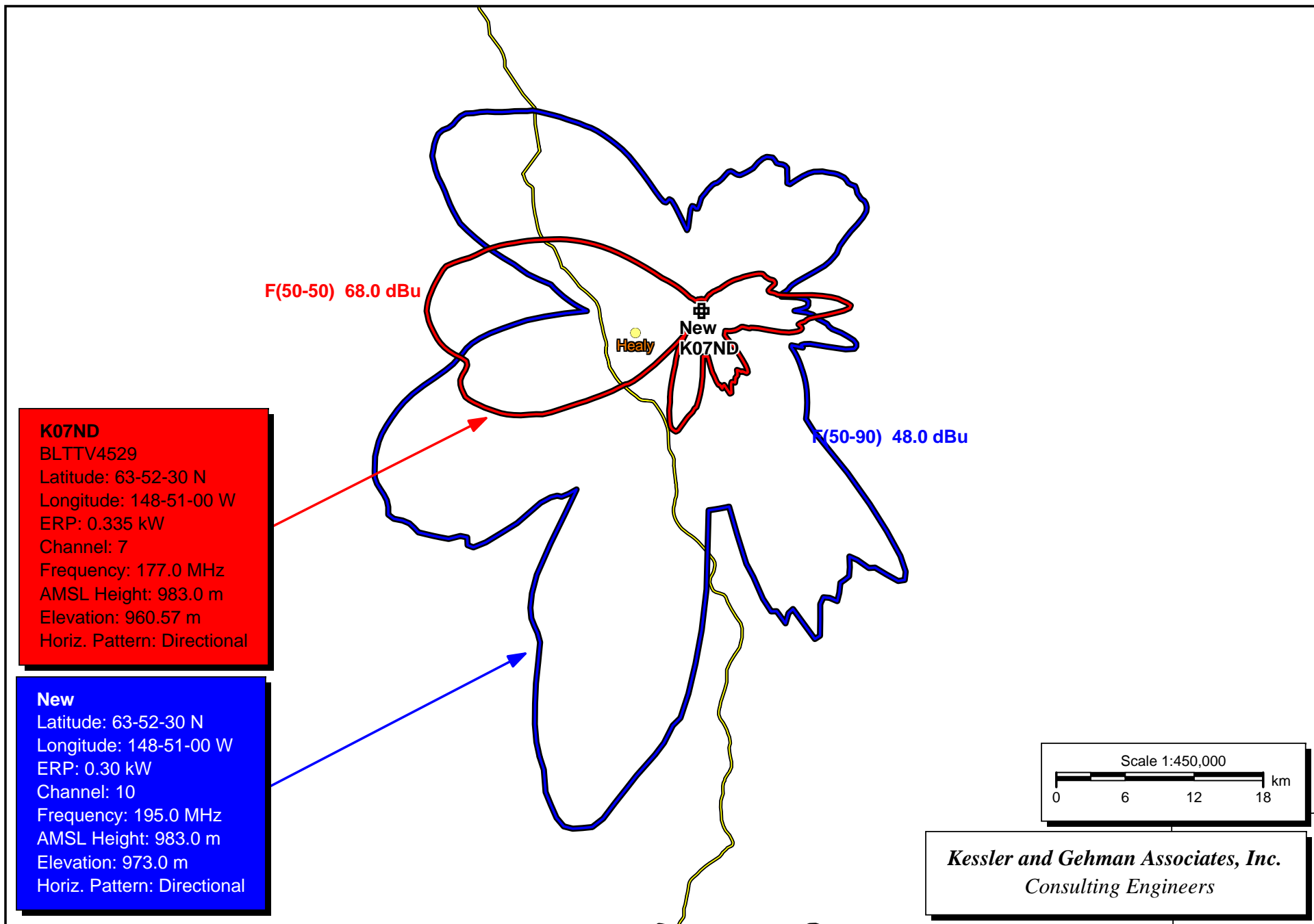
0 degree electrical downtilt

| Angle | Field | Rel.dB | dBd | PwrMult | Angle | Field | Rel.dB | dBd | PwrMult |
|-------|-------|--------|------|---------|-------|-------|--------|--------|---------|
| 0 | 0.998 | -0.02 | 7.68 | 5.86 | 45 | 0.488 | -6.23 | 1.47 | 1.40 |
| 1 | 0.997 | -0.03 | 7.67 | 5.85 | 46 | 0.472 | -6.52 | 1.18 | 1.31 |
| 2 | 0.995 | -0.04 | 7.66 | 5.83 | 47 | 0.457 | -6.81 | 0.89 | 1.23 |
| 3 | 0.994 | -0.05 | 7.65 | 5.82 | 48 | 0.442 | -7.10 | 0.60 | 1.15 |
| 4 | 0.992 | -0.07 | 7.63 | 5.79 | 49 | 0.427 | -7.39 | 0.31 | 1.07 |
| 5 | 0.990 | -0.09 | 7.61 | 5.77 | 50 | 0.413 | -7.69 | 0.01 | 1.00 |
| 6 | 0.987 | -0.11 | 7.59 | 5.74 | 51 | 0.399 | -7.99 | -0.29 | 0.94 |
| 7 | 0.984 | -0.14 | 7.56 | 5.70 | 52 | 0.385 | -8.30 | -0.60 | 0.87 |
| 8 | 0.981 | -0.17 | 7.53 | 5.66 | 53 | 0.371 | -8.62 | -0.92 | 0.81 |
| 9 | 0.976 | -0.21 | 7.49 | 5.61 | 54 | 0.357 | -8.94 | -1.24 | 0.75 |
| 10 | 0.969 | -0.27 | 7.43 | 5.53 | 55 | 0.344 | -9.26 | -1.56 | 0.70 |
| 11 | 0.963 | -0.33 | 7.37 | 5.46 | 56 | 0.332 | -9.57 | -1.87 | 0.65 |
| 12 | 0.954 | -0.41 | 7.29 | 5.36 | 57 | 0.321 | -9.88 | -2.18 | 0.61 |
| 13 | 0.943 | -0.51 | 7.19 | 5.24 | 58 | 0.309 | -10.19 | -2.49 | 0.56 |
| 14 | 0.932 | -0.61 | 7.09 | 5.12 | 59 | 0.299 | -10.49 | -2.79 | 0.53 |
| 15 | 0.922 | -0.71 | 6.99 | 5.00 | 60 | 0.288 | -10.82 | -3.12 | 0.49 |
| 16 | 0.911 | -0.81 | 6.89 | 4.89 | 61 | 0.277 | -11.15 | -3.45 | 0.45 |
| 17 | 0.899 | -0.92 | 6.78 | 4.76 | 62 | 0.266 | -11.51 | -3.81 | 0.42 |
| 18 | 0.889 | -1.02 | 6.68 | 4.66 | 63 | 0.254 | -11.89 | -4.19 | 0.38 |
| 19 | 0.879 | -1.12 | 6.58 | 4.55 | 64 | 0.243 | -12.28 | -4.58 | 0.35 |
| 20 | 0.868 | -1.23 | 6.47 | 4.44 | 65 | 0.233 | -12.67 | -4.97 | 0.32 |
| 21 | 0.857 | -1.34 | 6.36 | 4.33 | 66 | 0.222 | -13.06 | -5.36 | 0.29 |
| 22 | 0.846 | -1.45 | 6.25 | 4.22 | 67 | 0.213 | -13.44 | -5.74 | 0.27 |
| 23 | 0.835 | -1.57 | 6.13 | 4.10 | 68 | 0.204 | -13.81 | -6.11 | 0.24 |
| 24 | 0.822 | -1.70 | 6.00 | 3.98 | 69 | 0.196 | -14.17 | -6.47 | 0.23 |
| 25 | 0.810 | -1.83 | 5.87 | 3.86 | 70 | 0.188 | -14.51 | -6.81 | 0.21 |
| 26 | 0.797 | -1.97 | 5.73 | 3.74 | 71 | 0.181 | -14.85 | -7.15 | 0.19 |
| 27 | 0.783 | -2.12 | 5.58 | 3.61 | 72 | 0.174 | -15.18 | -7.48 | 0.18 |
| 28 | 0.770 | -2.27 | 5.43 | 3.49 | 73 | 0.168 | -15.50 | -7.80 | 0.17 |
| 29 | 0.757 | -2.42 | 5.28 | 3.37 | 74 | 0.162 | -15.82 | -8.12 | 0.15 |
| 30 | 0.743 | -2.58 | 5.12 | 3.25 | 75 | 0.156 | -16.12 | -8.42 | 0.14 |
| 31 | 0.729 | -2.75 | 4.95 | 3.13 | 76 | 0.151 | -16.41 | -8.71 | 0.13 |
| 32 | 0.714 | -2.92 | 4.78 | 3.01 | 77 | 0.146 | -16.69 | -8.99 | 0.13 |
| 33 | 0.700 | -3.10 | 4.60 | 2.88 | 78 | 0.142 | -16.95 | -9.25 | 0.12 |
| 34 | 0.685 | -3.28 | 4.42 | 2.77 | 79 | 0.138 | -17.22 | -9.52 | 0.11 |
| 35 | 0.670 | -3.48 | 4.22 | 2.64 | 80 | 0.134 | -17.48 | -9.78 | 0.11 |
| 36 | 0.653 | -3.70 | 4.00 | 2.51 | 81 | 0.130 | -17.75 | -10.05 | 0.10 |
| 37 | 0.635 | -3.94 | 3.76 | 2.38 | 82 | 0.126 | -18.02 | -10.32 | 0.09 |
| 38 | 0.617 | -4.20 | 3.50 | 2.24 | 83 | 0.122 | -18.29 | -10.59 | 0.09 |
| 39 | 0.598 | -4.47 | 3.23 | 2.10 | 84 | 0.118 | -18.56 | -10.86 | 0.08 |
| 40 | 0.579 | -4.75 | 2.95 | 1.97 | 85 | 0.115 | -18.82 | -11.12 | 0.08 |
| 41 | 0.560 | -5.04 | 2.66 | 1.85 | 86 | 0.111 | -19.06 | -11.36 | 0.07 |
| 42 | 0.541 | -5.34 | 2.36 | 1.72 | 87 | 0.109 | -19.28 | -11.58 | 0.07 |
| 43 | 0.522 | -5.64 | 2.06 | 1.61 | 88 | 0.106 | -19.48 | -11.78 | 0.07 |
| 44 | 0.505 | -5.94 | 1.76 | 1.50 | 89 | 0.104 | -19.67 | -11.97 | 0.06 |
| | | | | | 90 | 0.102 | -19.84 | -12.14 | 0.06 |





New Channel 10 F(50,90) 48.0 dBuV/m Community of License Contour Map



New Channel 10 F(50,90) 48.0 dBuV/m vs. Licensed Analog K07ND CH 7 F(50,50) 68.0 dBuV/m

Percent allowed new interference: 0.500
 Percent allowed new interference to non Class A LPTV: 2.000
 Census data selected 2000
 Data Base Selected
 ./data_files/pt_tvdb.sff
 TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 10-03-2011 Time: 19:24:53

Record Selected for Analysis

NEW USERRECORD-01 HEALY AK US
 Channel 10 ERP 0.3 kW HAAT 239. m RCAMSL 00983 m SIMPLE MASK
 Latitude 063-52-30 Longitude 0148-51-00
 Status APP Zone 2 Border Site number: 01
 Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
 Last update Cutoff date Docket
 Comments
 Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Not full service station
 Service Class = LD
 Maximum height/power limits not checked

| | | | |
|-------------|-------|-------|-------------------|
| Site number | 1 | | |
| Azimuth | ERP | HAAT | 48.0 dBu F(50,90) |
| (Deg) | (kW) | (m) | (km) |
| 0.0 | 0.001 | 175.8 | 9.9 |
| 45.0 | 0.004 | 219.8 | 16.7 |
| 90.0 | 0.000 | 302.3 | 8.2 |
| 135.0 | 0.088 | 33.0 | 13.2 |
| 180.0 | 0.300 | 65.9 | 25.0 |
| 225.0 | 0.088 | 171.5 | 29.1 |
| 270.0 | 0.000 | 484.0 | 9.9 |
| 315.0 | 0.004 | 459.7 | 24.4 |

Contour Overlap to Proposed Station

Station
 K10MI 10 MCKINLEY PARK AK BLTTTV19850319IF

Station inside contour of Digital LPTV station
 NEW 10 HEALY AK USERRECORD01

Contour Overlap Evaluation to Proposed Station Complete

NO LANDMOBILE SPACING VIOLATIONS FOUND

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
Distance to border = 383.2km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

| Channel | Call | Proposed Station City/State | ARN |
|---------|------|--------------------------------|--------------|
| 10 | NEW | HEALY AK | USERRECORD01 |

Stations Potentially Affected by Proposed Station

| Chan | Call | City/State | Dist(km) | Status | Application | Ref. No. |
|------|---------|-----------------------|----------|--------|-------------|--------------|
| 09 | K09SI | CANTWELL AK | 54.2 | LIC | BLTVL | -19821215IA |
| 09 | KUAC-TV | FAIRBANKS AK | 126.2 | LIC | BLEDT | -20090929AJZ |
| 09 | K09RD | RAMPART AK | 191.6 | LIC | BLTVL | -19811117JW |
| 10 | KTUU-TV | ANCHORAGE AK | 277.5 | LIC | BLCDDT | -20090619ABI |
| 10 | K10MT | CHICKALOON AK | 232.3 | LIC | BLTVL | -19860213IJ |
| 10 | K10OB | DELTA JUNCTION AK | 160.2 | LIC | BLTVL | -19961224JC |
| 10 | K10LJ | GALENA AK | 397.9 | LIC | BLTTV | -19811005II |
| 10 | K10MB | GIRDWOOD AK | 326.0 | LIC | BLTVL | -19821207IB |
| 10 | K10NC | KENAI AK | 389.1 | APP | BDFCDTT | -20060331BIF |
| 10 | K10NC | KENAI, ETC. AK | 389.0 | LIC | BLTTV | -19950731IG |
| 10 | K10QB-D | MANLEY HOT SPRINGS AK | 154.5 | CP | BDCCDDTV | -20061030AHQ |
| 10 | K10MI | MCKINLEY PARK AK | 16.6 | LIC | BLTTV | -19850319IF |
| 11 | K11WS-D | FAIRBANKS AK | 127.9 | CP | BNPDVL | -20090921ADL |
| 11 | KTVF | FAIRBANKS AK | 118.3 | CP | BDRTCDT | -20100921ACF |
| 11 | K11QV | PAXSON AK | 191.3 | LIC | BLTVL | -19820916IH |

%%%

Analysis of Interference to Affected Station 1

| Channel | Call | City/State | Application Ref. No. |
|---------|------|------------|----------------------|
|---------|------|------------|----------------------|

09 K09SI CANTWELL AK BLTVL -19821215IA

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|--------------|----------|--------|----------------------|
| 09 | KUAC-TV | FAIRBANKS AK | 177.6 | LIC | BLEDT -20090929AJZ |
| 10 | NEW | HEALY AK | 54.2 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 2

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|--------------|----------------------|
| 09 | KUAC-TV | FAIRBANKS AK | BLEDT -20090929AJZ |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|------|------------|----------|--------|----------------------|
| 10 | NEW | HEALY AK | 126.2 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 3

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|-------|------------|----------------------|
| 09 | K09RD | RAMPART AK | BLTVL -19811117JW |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|--------------------|----------|--------|----------------------|
| 09 | KUAC-TV | FAIRBANKS AK | 129.5 | LIC | BLEDT -20090929AJZ |
| 09 | K09SV | STEVENS VILLAGE AK | 74.4 | LIC | BLTTV -19971229JW |
| 10 | NEW | HEALY AK | 191.6 | APP | USERRECORD-01 |

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 4

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|--------------|----------------------|
| 10 | KTUU-TV | ANCHORAGE AK | BLCDT -20090619ABI |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|------|------------|----------|--------|----------------------|
| 10 | NEW | HEALY AK | 277.5 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 5

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|-------|---------------|----------------------|
| 10 | K10MT | CHICKALOON AK | BLTVL -19860213IJ |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|--------------|----------|--------|----------------------|
| 10 | KTUU-TV | ANCHORAGE AK | 87.1 | LIC | BLCDDT -20090619ABI |
| 10 | K10MB | GIRDWOOD AK | 102.5 | LIC | BLTVL -19821207IB |
| 10 | NEW | HEALY AK | 232.3 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 6

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|-------|-------------------|----------------------|
| 10 | K10OB | DELTA JUNCTION AK | BLTVL -19961224JC |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|--------------|----------|--------|----------------------|
| 10 | KTUU-TV | ANCHORAGE AK | 364.8 | LIC | BLCDDT -20090619ABI |
| 10 | NEW | HEALY AK | 160.2 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 7

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|-------|------------|----------------------|
| 10 | K10LJ | GALENA AK | BLTTV -19811005II |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|------|------------|----------|--------|----------------------|
| 10 | NEW | HEALY AK | 397.9 | APP | USERRECORD-01 |

Proposed station is beyond the site to nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 8

Analysis of current record

| Channel | Call | City/State | Application | Ref. No. |
|---------|-------|-------------|-------------|-------------|
| 10 | K10MB | GIRDWOOD AK | BLTVL | -19821207IB |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application | Ref. No. |
|------|---------|---------------|----------|--------|---------------|--------------|
| 10 | KTUU-TV | ANCHORAGE AK | 64.9 | LIC | BLCDT | -20090619ABI |
| 10 | K10MT | CHICKALOON AK | 102.5 | LIC | BLTVL | -19860213IJ |
| 10 | NEW | HEALY AK | 326.0 | APP | USERRECORD-01 | |

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 9

Analysis of current record

| Channel | Call | City/State | Application | Ref. No. |
|---------|-------|------------|-------------|--------------|
| 10 | K10NC | KENAI AK | BDFCDTT | -20060331BIF |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application | Ref. No. |
|------|---------|----------------|----------|--------|---------------|--------------|
| 09 | K09QH | KENAI, ETC. AK | 0.1 | LIC | BLTTV | -19950216IC |
| 10 | KTUU-TV | ANCHORAGE AK | 118.6 | LIC | BLCDT | -20090619ABI |
| 11 | NEW | KASILOF AK | 18.0 | APP | BNPDTV | -20090909AAP |
| 10 | NEW | HEALY AK | 389.1 | APP | USERRECORD-01 | |

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 10

Analysis of current record

| Channel | Call | City/State | Application | Ref. No. |
|---------|-------|----------------|-------------|-------------|
| 10 | K10NC | KENAI, ETC. AK | BLTTV | -19950731IG |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application | Ref. No. |
|------|---------|----------------|----------|--------|-------------|--------------|
| 09 | K09QH | KENAI, ETC. AK | 0.0 | LIC | BLTTV | -19950216IC |
| 10 | KTUU-TV | ANCHORAGE AK | 118.5 | LIC | BLCDT | -20090619ABI |
| 11 | NEW | KASILOF AK | 18.1 | APP | BNPDTV | -20090909AAP |

10 NEW HEALY AK 389.0 APP USERRECORD-01

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 11

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|-----------------------|----------------------|
| 10 | K10QB-D | MANLEY HOT SPRINGS AK | BDCCDTV -20061030AHQ |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|------|------------|----------|--------|----------------------|
| 10 | NEW | HEALY AK | 154.5 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 12

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|-------|------------------|----------------------|
| 10 | K10MI | MCKINLEY PARK AK | BLTTV -19850319IF |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|--------------|----------|--------|----------------------|
| 10 | KTUU-TV | ANCHORAGE AK | 260.9 | LIC | BLCDDT -20090619ABI |
| 10 | NEW | HEALY AK | 16.6 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 13

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|---------|--------------|----------------------|
| 11 | K11WS-D | FAIRBANKS AK | BNPDVL -20090921ADL |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|-------|----------------------|----------|--------|----------------------|
| 11 | K11RJ | LAKE LOUISE, ETC. AK | 114.0 | LIC | BRTT -19830609IE |
| 10 | NEW | HEALY AK | 127.9 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 14

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|------|--------------|-----------------------|
| 11 | KTVF | FAIRBANKS AK | BDRTCDDT -20100921ACF |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|------|------------|----------|--------|----------------------|
| 10 | NEW | HEALY AK | 118.3 | APP | USERRECORD-01 |

Proposal causes no interference

#####

Analysis of Interference to Affected Station 15

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|-------|------------|----------------------|
| 11 | K11QV | PAXSON AK | BLTVL -19820916IH |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|-------|----------------------|----------|--------|----------------------|
| 11 | K11RG | GAKONA AK | 81.9 | LIC | BLTVL -19820827IG |
| 11 | K11RJ | LAKE LOUISE, ETC. AK | 108.6 | LIC | BRTT -19830609IE |
| 10 | NEW | HEALY AK | 191.3 | APP | USERRECORD-01 |

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 16

Analysis of current record

| Channel | Call | City/State | Application Ref. No. |
|---------|------|------------|----------------------|
| 10 | NEW | HEALY AK | USERRECORD-01 |

Stations Potentially Affecting This Station

| Chan | Call | City/State | Dist(km) | Status | Application Ref. No. |
|------|---------|------------------|----------|--------|----------------------|
| 09 | KUAC-TV | FAIRBANKS AK | 126.2 | LIC | BLEDT -20090929AJZ |
| 10 | KTUU-TV | ANCHORAGE AK | 277.5 | LIC | BLCDT -20090619ABI |
| 10 | K10MI | MCKINLEY PARK AK | 16.6 | LIC | BLTTV -19850319IF |

Total scenarios = 1

Result key: 1
Scenario 1 Affected station 16
Before Analysis

Results for: 10A AK HEALY USERRECORD01 APP
 HAAT 239.0 m, ATV ERP 0.3 kW

| | POPULATION | AREA (sq km) |
|--------------------------------|------------|--------------|
| within Noise Limited Contour | 841 | 1278.9 |
| not affected by terrain losses | 802 | 1115.9 |
| lost to NTSC IX | 0 | 0.0 |
| lost to additional IX by ATV | 0 | 0.0 |
| lost to ATV IX only | 0 | 0.0 |
| lost to all IX | 0 | 0.0 |

Potential Interfering Stations Included in above Scenario 1

#####

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED